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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,970	09/29/2003	Vladimir Leonidovich Girshov	S-99736	3595

31971 7590 01/25/2005

UNITED STATES DEPARTMENT OF ENERGY  
1000 INDEPENDENCE AVENUE S.W.  
ATTN; GC-62 (OAK), MS 6F-067  
WASHINGTON, DC 20585-0162

EXAMINER

TRAN, LEN

ART UNIT PAPER NUMBER

1725

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/672,970

Applicant(s)

GIRSHOV ET AL.

Examiner

Len Tran

Art Unit

1725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-9 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1, 3, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over RU 2081727, and further in view of RU 2048268.

As to claims 1 and 9, RU '727 discloses a method for forming consumable electrodes from metal chips comprising recycling the chips, making the chips into briquettes, prior to the addition of molten metal, filling the mold space with molten metal, and cooling the mold to form a consumable electrode (abstract).

However, RU '727 fails to teach cleaning by vacuum and cold-compressing into briquettes.

RU '268 discloses the chips are roasted in vacuum and then cold pressing the briquettes carried out at a pressure of 370-550 Mpa for the purpose of cleaning the chips.

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to vacuum and cold press the briquettes as taught by RU '268, in RU '727 in order to clean the chips.

As to claim 3, it would have been obvious to clean by either degreasing, washing and drying the chip scrap, since these are well-known methods.

4. Claims 2 and 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over RU 2081727, and further in view of RU 2048268, further in view of Simons (US 4,088,176).

RU '268 and RU '727 disclose the claimed invention above, but fail to teach particle size between 5-20 mm, preheating in the range of 400-450 degrees C, and introducing argon into the system.

However, Simons discloses introducing argon to the molten metal over the sponge titanium having a particle size of between 5-20 mm and density of 0.6 to 0.75 (col. 2, lines 51-65) for the purpose of eliminating porosity in the resulting alloy (col. 2, lines 46-47).

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to add argon as taught by Simons, in RU '268 and RU '727 in order to eliminate porosity in the final product.

*Allowable Subject Matter*

5. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior arts of record fails to teach a combination of subjecting the particles in the range of 550-650 deg C and pressure of  $5 \times 10^{-3}$  mm of mercury for a time in the range of 1-2 hours, maintaining vacuum pressure while particles cool to 200 deg C, and lastly cooling the particle to ambient temperature.

*Inquiry*

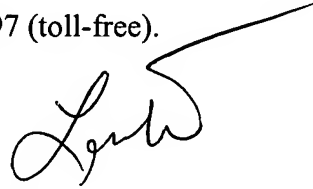
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Len Tran whose telephone number is (571) 272-1184. The examiner can normally be reached on M-F, 8:30 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1725

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Len Tran  
Examiner  
Art Unit 1725

A handwritten signature in black ink, appearing to read 'Len Tran', with a long horizontal stroke extending to the right.

January 23, 2005